L1 QUE XYLOGALACTURONASE# OR (XYLOGALACTURON? (S) HYDROLASE#) OR ENDOXYLOGALA
CTURONASE# OR (ENDOXYLOGALACTURON?(S) HYDROLASE#) OR POLYGALACTURONASE
OR (POLYGALACTURON?(S) HYDROLASE#) OR ENDOPOLYGALACTURONASE# OR (END
OPOLYGALACTURON?(S) HYDROLASE#)

=> d rank

F1	4555	CAPLUS
F2	2707	BIOSIS
F3	2706	CABA
F4	2227	SCISEARCH
F5	1998	USPATFULL
F6	1874	PASCAL
F7	1663	AGRICOLA
F8	1556	GENBANK
F9	1480	FSTA
F10	1078	LIFESCI
F11	982	BIOTECHABS
F12	982	BIOTECHDS
F13	979	EMBASE
F14	937	MEDLINE
F15	915	BIOTECHNO
F16	835	ESBIOBASE
F17	768	BIOENG
F18	639	DGENE
F19	544	FROSTI
F20	453	BIOBUSINESS
F21	422	TOXCENTER
F22	309	USPAT2
F23	253	WPIDS
F24	253	WPINDEX
F25	207	CEABA-VTB
F26	169	IFIPAT
F27	167	DISSABS
F28	147	JICST-EPLUS
F29	146	CROPB
F30	97	PROMT
F31	95	CROPU
F32	90	VETU
F33	64	CONFSCI
F34	54	NLDB
F35	49*	FEDRIP
F36	43	ANABSTR
F37	38	PHIN
F38	26	DDFB
F39	26	DRUGB
F40	25	ANTE
F41	24	BIOCOMMERCE
F42	24	CIN
F43	16	DRUGU
F44	13	NTIS
F45	11	DDFU
F46	10	CEN
F47	8	NAPRALERT
F48	5	AQUASCI
F49	5	EMBAL
F50	3	AQUALINE
F51	2	CANCERLIT
F52	2	FOREGE
F53	2	RDISCLOSURE
F54	2	VETB
F55	2	WATER
F56	1	HEALSAFE
F57	1	OCEAN
F58	1	WPIFV

=> file f1-f7, f10-f17
FILE 'CAPLUS' ENTERED AT 14:10:04 ON 28 OCT 2005
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=> s L1
L2 24224 L1

=> s (gene# or clone# or sequence# or polynucleotide# or recombinant#)(s)L2
5 FILES SEARCHED...
12 FILES SEARCHED...
L3 5984 (GENE# OR CLONE# OR SEQUENCE# OR POLYNUCLEOTIDE#
OR RECOMBINANT#)(S) L2

=> s (hydroly? or cleav? or digest?) (s) L3
L4 489 (HYDROLY? OR CLEAV? OR DIGEST?) (S) L3

=> s polygalacturon? (s) L4
L5 417 POLYGALACTURON? (S) L4

=> s endo? (s) L5
9 FILES SEARCHED...
L6 231 ENDO? (S) L5

=> s xylose? (s)L6
L7 17 XYLOSE? (S) L6

=> s aspergillus (s) L6
L8 50 ASPERGILLUS (S) L6

=> dup rem l8

PROCESSING COMPLETED FOR L8
L9 24 DUP REM L8 (26 DUPLICATES REMOVED)

=> dup rem l7
PROCESSING COMPLETED FOR L7
L10 11 DUP REM L7 (6 DUPLICATES REMOVED)

=> d ibib abs l9 1-24

L9 ANSWER 1 OF 24 USPATFULL on STN
ACCESSION NUMBER: 2005:177852 USPATFULL
TITLE: Use of compounds comprising a polysaccharide structure as biofertiliser and phytosanitary products
INVENTOR(S): Lienart, Yvette Janine, Uriage, FRANCE
Heyraud, Alain Charles Abel, Voroize, FRANCE

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005153933	A1	20050714
APPLICATION INFO.:	US 2003-509070	A1	20030327 (10)
	WO 2003-FR969		20030327

	NUMBER	DATE
PRIORITY INFORMATION:	FR 2003-203849	20020327

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: YOUNG & THOMPSON, 745 SOUTH 23RD STREET, 2ND FLOOR, ARLINGTON, VA, 22202, US
NUMBER OF CLAIMS: 17
EXEMPLARY CLAIM: 1-15
LINE COUNT: 639
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to the use of a compound comprising a polysaccharaide structure having formula XFG, or a derivative structure, in relation to adapting plants to abiotic stress, controlling flowering and fructification and inducing defence reactions against pathogens.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 2 OF 24 USPATFULL on STN
ACCESSION NUMBER: 2005:139784 USPATFULL
TITLE: Inbred corn line PHADA
INVENTOR(S): Benson, David Lee, York, NE, UNITED STATES
PATENT ASSIGNEE(S): Pioneer Hi-Bred International, Inc. (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005120439	A1	20050602
APPLICATION INFO.:	US 2005-48442	A1	20050131 (11)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: PIONEER HI-BRED INTERNATIONAL INC., 7100 N.W. 62ND AVENUE, P.O. BOX 1000, JOHNSTON, IA, 50131, US
NUMBER OF CLAIMS: 41
EXEMPLARY CLAIM: 1
LINE COUNT: 3112
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A novel inbred maize line designated PHADA and seed, plants and plant parts thereof. Methods for producing a maize plant that comprise crossing inbred maize line PHADA with another maize plant. Methods for producing a maize plant containing in its genetic material one or more traits introgressed into PHADA through backcross conversion and/or transformation, and to the maize seed, plant and plant part produced thereby. Hybrid maize seed, plant or plant part produced by crossing the inbred line PHADA or a trait conversion of PHADA with another maize line. Inbred maize lines derived from inbred maize line PHADA, methods for producing other inbred maize lines derived from inbred maize line PHADA and the inbred maize lines and their parts derived by the use of those methods.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 3 OF 24 USPATFULL on STN
ACCESSION NUMBER: 2005:139783 USPATFULL
TITLE: Hybrid maize 37F73
INVENTOR(S): Kevern, Thomas Craig, Milton, WI, UNITED STATES
PATENT ASSIGNEE(S): Pioneer Hi-Bred International, Inc., Johnston, IA, UNITED STATES (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005120438	A1	20050602
APPLICATION INFO.:	US 2005-48371	A1	20050131 (11)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: MCKEE, VOORHEES & SEASE, P.L.C., ATTN: PIONEER HI-BRED, 801 GRAND AVENUE, SUITE 3200, DES MOINES, IA, 50309-2721, US
NUMBER OF CLAIMS: 27
EXEMPLARY CLAIM: 1
LINE COUNT: 2753
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A novel hybrid maize variety designated 37F73 and seed, plants and plant parts thereof, produced by crossing two Pioneer Hi-Bred International, Inc. proprietary inbred maize lines. Methods for producing a maize plant that comprises crossing hybrid maize variety 37F73 with another maize plant. Methods for producing a maize plant containing in its genetic material one or more traits introgressed into 37F73 through backcross conversion and/or transformation, and to the maize seed, plant and plant part produced thereby. This invention relates to the hybrid seed 37F73, the hybrid plant produced from the seed, and variants, mutants, and trivial modifications of hybrid 37F73. This invention further relates to methods for producing maize lines derived from hybrid maize variety 37F73 and to the maize lines derived by the use of those methods.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 4 OF 24 USPATFULL on STN
ACCESSION NUMBER: 2005:139780 USPATFULL
TITLE: Soybean variety XB25C05
INVENTOR(S): Streit, Leon George, Johnston, IA, UNITED STATES
Stephens, Paul Alan, Princeton, IL, UNITED STATES
PATENT ASSIGNEE(S): Pioneer Hi-Bred International, Inc. (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005120435	A1	20050602
APPLICATION INFO.:	US 2005-48688	A1	20050131 (11)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: PIONEER HI-BRED INTERNATIONAL INC., 7100 N.W. 62ND AVENUE, P.O. BOX 1000, JOHNSTON, IA, 50131, US
NUMBER OF CLAIMS: 12
EXEMPLARY CLAIM: 1
LINE COUNT: 1693
AB According to the invention, there is provided a novel soybean variety designated XB25C05. This invention thus relates to the seeds of soybean variety XB25C05, to the plants of soybean XB25C05 to plant parts of soybean variety XB25C05 and to methods for producing a soybean plant produced by crossing plants of the soybean variety XB25C05 with another soybean plant, using XB25C05 as either the male or the female parent.

L9 ANSWER 5 OF 24 USPATFULL on STN
ACCESSION NUMBER: 2005:139772 USPATFULL
TITLE: Soybean variety XB43D05
INVENTOR(S): Thompson, Jeffrey Allan, Edwardsville, IL, UNITED STATES
Streit, Leon George, Johnston, IA, UNITED STATES

PATENT ASSIGNEE(S): Pioneer Hi-Bred International, Inc. (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005120427	A1	20050602
APPLICATION INFO.:	US 2005-48362	A1	20050131 (11)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: PIONEER HI-BRED INTERNATIONAL INC., 7100 N.W. 62ND AVENUE, P.O. BOX 1000, JOHNSTON, IA, 50131, US
NUMBER OF CLAIMS: 12
EXEMPLARY CLAIM: 1
LINE COUNT: 1691
AB According to the invention, there is provided a novel soybean variety designated XB43D05. This invention thus relates to the seeds of soybean variety XB43D05, to the plants of soybean XB43D05 to plant parts of soybean variety XB43D05 and to methods for producing a soybean plant produced by crossing plants of the soybean variety XB43D05 with another soybean plant, using XB43D05 as either the male or the female parent.

L9 ANSWER 6 OF 24 USPATFULL on STN
ACCESSION NUMBER: 2005:139770 USPATFULL
TITLE: Soybean variety XB39N05
INVENTOR(S): Corbin, Thomas Charles, Monticello, IL, UNITED STATES
Streit, Leon George, Johnston, IA, UNITED STATES
PATENT ASSIGNEE(S): Pioneer Hi-Bred International, Inc. (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005120425	A1	20050602
APPLICATION INFO.:	US 2005-48357	A1	20050131 (11)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: PIONEER HI-BRED INTERNATIONAL INC., 7100 N.W. 62ND AVENUE, P.O. BOX 1000, JOHNSTON, IA, 50131, US
NUMBER OF CLAIMS: 12
EXEMPLARY CLAIM: 1
LINE COUNT: 1693
AB According to the invention, there is provided a novel soybean variety designated XB39N05. This invention thus relates to the seeds of soybean variety XB39N05, to the plants of soybean XB39N05 to plant parts of soybean variety XB39N05 and to methods for producing a soybean plant produced by crossing plants of the soybean variety XB39N05 with another soybean plant, using XB39N05 as either the male or the female parent.

L9 ANSWER 7 OF 24 USPATFULL on STN
ACCESSION NUMBER: 2005:270565 USPATFULL
TITLE: Inbred corn line PHACE
INVENTOR(S): Benson, David Lee, York, NE, UNITED STATES
PATENT ASSIGNEE(S): Pioneer Hi-Bred International, Inc., Des Moines, IA, UNITED STATES (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6958438	B1	20051025
APPLICATION INFO.:	US 2004-769188		20040130 (10)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Kruse, David H
LEGAL REPRESENTATIVE: Pioneer Hi-Bred International, Inc.
NUMBER OF CLAIMS: 30
EXEMPLARY CLAIM: 1
LINE COUNT: 2637
AB A novel inbred maize line designated PHACE and seed, plants and plant parts thereof. Methods for producing a maize plant that comprise crossing inbred maize line PHACE with another maize plant. Methods for producing a maize plant containing in its genetic material one or more traits introgressed into PHACE through backcross conversion and/or

transformation, and to the maize seed, plant and plant part produced thereby. Hybrid maize seed, plant or plant part produced by crossing the inbred line PHACE or an introgressed trait conversion of PHACE with another maize line. Inbred maize lines derived from inbred maize line PHACE, methods for producing other inbred maize lines derived from inbred maize line PHACE and the inbred maize lines and their parts derived by the use of those methods.

L9 ANSWER 8 OF 24 USPATFULL on STN
ACCESSION NUMBER: 2005:198732 USPATFULL
TITLE: Inbred corn line PHAVN
INVENTOR(S): Hoffbeck, Loren John, Tipton, IN, UNITED STATES
PATENT ASSIGNEE(S): Pioneer Hi-Bred International Inc., Des Moines, IA, UNITED STATES (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6927327	B1	20050809
APPLICATION INFO.:	US 2004-768428		20040130 (10)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Fox, David T.
ASSISTANT EXAMINER: Ibrahim, Medina A.
LEGAL REPRESENTATIVE: Pioneer Hi-Bred International Inc.
NUMBER OF CLAIMS: 30
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 0 Drawing Figure(s); 0 Drawing Page(s)
LINE COUNT: 2856
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A novel inbred maize line designated PHAVN and seed, plants and plant parts thereof. Methods for producing a maize plant that comprise crossing inbred maize line PHAVN with another maize plant. Methods for producing a maize plant containing in its genetic material one or more traits introgressed into PHAVN through backcross conversion and/or transformation, and to the maize seed, plant and plant part produced thereby. Hybrid maize seed, plant or plant part produced by crossing the inbred line PHAVN or an introgressed trait conversion of PHAVN with another maize line. Inbred maize lines derived from inbred maize line PHAVN, methods for producing other inbred maize lines derived from inbred maize line PHAVN and the inbred maize lines and their parts derived by the use of those methods.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 9 OF 24 USPATFULL on STN
ACCESSION NUMBER: 2005:154047 USPATFULL
TITLE: Inbred corn line PH77N
INVENTOR(S): Weber, Gerhard Peter, Ammerschwihr, FRANCE
PATENT ASSIGNEE(S): Pioneer Hi-Bred International Inc., Des Moines, IA, UNITED STATES (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6909039	B1	20050621
APPLICATION INFO.:	US 2004-768545		20040130 (10)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Fox, David T.
ASSISTANT EXAMINER: Ibrahim, Medina A.
LEGAL REPRESENTATIVE: Pioneer Hi-Bred International Inc.
NUMBER OF CLAIMS: 30
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 0 Drawing Figure(s); 0 Drawing Page(s)
LINE COUNT: 3004
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A novel inbred maize line designated PH77N and seed, plants and plant parts thereof. Methods for producing a maize plant that comprise crossing inbred maize line PH77N with another maize plant. Methods for producing a maize plant containing in its genetic material one or more

traits introgressed into PH77N through backcross conversion and/or transformation, and to the maize seed, plant and plant part produced thereby. Hybrid maize seed, plant or plant part produced by crossing the inbred line PH77N or an introgressed trait conversion of PH77N with another maize line. Inbred maize lines derived from inbred maize line PH77N, methods for producing other inbred maize lines derived from inbred maize line PH77N and the inbred maize lines and their parts derived by the use of those methods.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 10 OF 24 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
ACCESSION NUMBER: 2004-06475 BIOTECHDS
TITLE: Construction of recombinant Saccharomyces cerevisiae that overexpresses endopolygalacturonase, useful for making wine, facilitates filtration and clarification by degrading pectin; vector-mediated gene transfer and expression in yeast host cell for strain improvement
AUTHOR: VILANOVA DE LA TORRE M; GONZALEZ VILLA T; SIEIRO VAZQUEZ C
PATENT ASSIGNEE: UNIV SANTIAGO COMPOSTELA
PATENT INFO: WO 2004005519 15 Jan 2004
APPLICATION INFO: WO 2003-ES324 1 Jul 2003
PRIORITY INFO: ES 2002-1596 8 Jul 2002; ES 2002-1596 8 Jul 2002
DOCUMENT TYPE: Patent
LANGUAGE: Spanish
OTHER SOURCE: WPI: 2004-091371 [09]
AN 2004-06475 BIOTECHDS
AB DERWENT ABSTRACT:
NOVELTY - Constructing a ***recombinant*** strain of Saccharomyces cerevisiae that overexpresses an ***endopolygalacturonase*** (I) as a result of transformation with plasmid pBEJ16-PGU1.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for the S. cerevisiae strain USC-1 (CECT 11777).
BIOTECHNOLOGY - The known plasmid pBEJ16-PGU1, containing the PGU1 ***gene*** that encodes yeast ***polygalacturonidase*** , was used to transform the S. cerevisiae strain MR-7, positive for ***polygalacturonidase*** , by standard methods, to produce strain USC-1. Cultures of this strain has pectinolytic activity 520 units/ml, compared with 142 units/ml for MR-7, indicating overexpression of PGU1. pBEJ16-PGU1 was prepared by (i) inserting an amplified PGU1 ***gene*** into EcoRV- ***digested*** pBluescript SK, forming pBSK-PGU1; then (ii) recovering the PGU1 ***gene*** as a BamHI fragment and insertion into BglII- ***digested*** pBES16. The PGU1 ***gene*** was amplified with primers 5'-CGCGGATCCATGATTTCTGCTAATTCATTACTTATTT 5'-CGCGGATCCTTAACAGCTTGCACCAGATCCAG.
USE - The new strain is used for making wine.
ADVANTAGE - The new strain improves clarification and filtration of wine (because ***endopolygalacturonase*** ***hydrolyzes*** pectin), without increasing the content of methanol or altering the aroma (contrast use of pectinase from ***Aspergillus*** niger).
EXAMPLE - White wine was made from the Albarino grape variety, using (i) the yeast strain MR-7, positive for ***polygalacturonase*** , or (ii) strain USC-1, a derivative of MR-7 transformed with a vector that contains the PGU1 ***gene*** for ***polygalacturonase*** . The time required for filtration of 100 ml of the wine through a 0.45 micron Millipore membrane was over 500 s for (i), maximum enzyme activity 10 units/ml, but only 30 s for (ii), maximum enzyme activity 205 units/ml. (22 pages)

L9 ANSWER 11 OF 24 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
ACCESSION NUMBER: 2002-19824 BIOTECHDS
TITLE: New xylanase polypeptide having both arabinoxylanase and xylosidase activity that cleaves xylan, useful for treating plant or xylan containing material, and also in brewing and baking process; recombinant enzyme production by transgenic plant generation useful for feedstuff and food
AUTHOR: VAN DEN HOMBERGH J P T W; VAN DER LAAN J; DARAN J G
PATENT ASSIGNEE: DSM NV
PATENT INFO: WO 2002024926 28 Mar 2002

APPLICATION INFO: WO 2000-EP9257 21 Sep 2000
PRIORITY INFO: WO 2000-9257 21 Sep 2000
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2002-557370 [59]
AN 2002-19824 BIOTECHDS
AB DERWENT ABSTRACT:

NOVELTY - A xylanase polypeptide (I) which has arabinoxylanase and xylosidase activity comprising an amino acid (a.a) ***sequence*** (S1) from amino acids 23-408 of a 408 a.a ***sequence*** fully defined in the specification, or its variant (II) or fragment capable of ***cleaving*** xylan, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following: (1) a ***polynucleotide*** (IV) comprises a nucleic acid ***sequence*** (S2) of 1227 base pairs fully defined in the specification or a ***sequence*** encoding (I), a ***sequence*** which is complementary to or which hybridizes to a ***sequence*** in S2, a fragment of at least 100 nucleotides of S2, a ***sequence*** having at least 70% identity to S2, or a ***sequence*** that is degenerate as a result of the genetic code to anyone of the above ***sequences*** ; (2) a vector (V) comprising (IV); (3) a host cell (VI) which comprises or which expresses (I) as a heterologous protein or is transferred with (IV) or (V); (4) production of (I); (5) a composition (VII) comprising (I); (6) a processed material obtainable by contacting a plant or xylan-containing material with (I) or (VII); (7) an (animal) feed, food or foodstuff comprising (I); and (8) a transgenic organism such as plant or its portions comprising (VI).

BIOTECHNOLOGY - Preparation: (I) is produced by culturing (VI) under conditions that provide for expression of (I). Preferred Polypeptide: In (I), (II) has at least 70% or 80% identity to S1, and (III) has at least 150 a.a. (I) ***cleaves*** (1-4) linkages or adjacent xylopyranosyl units in beta-D-xylan which is obtainable from a fungus or an organism of the genus Talaromyces, optionally of the species T. emersonii. Preferred ***Polynucleotide*** : In (IV), the hybridization is under stringent conditions, and the fragment is at least 200 bases in length and/or the identity of the fragment is 80%. (IV) which is a DNA ***sequence*** comprises a ***sequence*** that encodes a polypeptide having xylanase activity which is the coding ***sequence*** from nucleotides 69-1224 of (S2), a ***sequences*** which hybridizes selectively to the complement of the coding ***sequence*** or a ***sequence*** that is degenerate as a result of the genetic code of the coding ***sequence*** or a ***sequence*** which hybridizes selectively to the complementary ***sequence*** of the coding ***sequence*** . Preferred Vector: (V) is an expression vector in which (IV) is operably linked to a regulatory ***sequence*** . Preferred Composition: (VII) further comprises a polypeptide having cellulase, ***endo*** -arabinanase, rhamnogalacturonase or ***polygalacturonase*** activity.

USE - (I) or (VII) is useful for treating a plant or xylan-containing material which involves degrading, ***hydrolysis*** or modifying xylan in the material or degrading or modifying plant cell wall by ***cleaving*** xylopyranosyl or beta-D-xylan subunits and/or the material comprising a plant, plant pulp, plant extract or an edible foodstuff or its ingredients. This method of treatment reduces the viscosity of the material or xylan-containing liquid, degrades or ***hydrolysis*** xylan contained in the material or improves clarity or filterability of the material. Further, (I)/(VII) is useful for improving filterability or classifying alcoholic liquids (e.g., beer, wine) or fruit or vegetable juices, ***hydrolyzing*** agricultural residues, in recycling materials (e.g., containing paper) in paper making for thickening foodstuffs and/or extracting desirable material (e.g., coffee, plant oil, starch) processing pulp, juice or extract, improving loaf volume, bread quality or reducing the stickiness of dough. (I) is utilized in brewing, beer or wine making, distilling, recycling, biomethanation, dental hygiene, leather treatment or manufacture, baking or bread making, treating flower bulbs, preparation of food or foodstuffs such as alcoholic beverage, bread, dough or tea or in an animal feed (claimed). (IV) is useful as primer e.g., in polymerase chain reaction. (I) improves the filterability and/or reduce viscosity of glucose syrups from cereals produced by liquefaction. (I) is useful in pharmaceuticals,

in the preparation and treatment of textiles and in the treatment of waste. (I) along with one or more fungicides is useful to control parasite insects, mites and nematodes. (I) also displays antifungal activity i.e., it is able to degrade fungal cell wall and can be applied for fungal cell wall lysis and thus useful to prepare yeast and/or fungal extracts. (I) is useful for the production of milk substitutes from soybean and in the preparation of savoury products (e.g., from soybean). (I) is useful for promoting growth and/or feed conversion in a monogastric or non-ruminant animal. (I) is used in screening methods to identify compounds that act as agonist or antagonist which may modulate the xylanase e.g., to identify inhibitors of (I) which is able to inhibit fruit softening.

EXAMPLE - RNA was isolated from Talaromyces emerosonii preferably strain CBS393.64 by standard methods and the isolated mRNA was utilized for the synthesis of cDNA using STRATAGENE cDNA synthesis kit. The cDNA pool obtained was blunted, ligated with adapters and restriction enzyme ***digested*** . Cloning of cDNA in the expression vector pGBFIN-11 requires the presence of a EcoRI site on the 5' and of an XhoI site on the 3'-end of the cDNA. The cDNAs obtained were separated by size fractionation and two pools of cDNAs obtained by cut off's at 0.5 kilo base pairs (kb) and 1.0 kb respectively were selected for construction of cDNA library in pGBFIN-11. For the pGBFIN-11, a pool of completely double- ***digested*** (EcoRI-XhoI) pGBFIN-11 vector was prepared. The selected cDNA pools were ligated into the pGBFIN-11 vector and transformed into Escherichia coli XL10-Gold bacterial cells to generate two primary cDNA libraries. DNA was isolated from the E. coli cDNA library. Total plasmid DNA was ***digested*** with NotI to remove E. coli derived plasmid ***sequences*** . Multiple ***Aspergillus*** niger DS2978 transformation were performed using 1.5 x 10 to the power of 7-3.0 x 10 to the power of 7 protoplasts and 10 microgram of plasmid DNA per transformation. Positive transformants were analyzed for xylanase activity. These transformants were then grown on liquid medium and the mycelium was harvested and total (chromosomal) DNA was isolated using the pure ***gene*** isolation system for DNA isolation from filamentous fungi. Chromosomal DNA was used as a template in a polymerase chain reaction (PCR) using primers 12207 i.e., tatagcgaaatggattgattgtacgtc and 11937 i.e., atccccagcatcattacacctcagtg to amplify the inserts present in the expression cassette integrated into the chromosomal DNA. Direct PCRs on transformants were performed. PCR products obtained was subcloned in the E. coli PCR 2.1 cloning vector resulting in plasmid pGBXEA-1. The E. coli harboring plasmid pGBXEA-1 was deposited under central bureau voor Schimmelcultures accession number 102183. The subcloned PCR product was ***sequenced*** . The resulting nucleotide ***sequence*** of the coding region had 1227 base pairs and the deduced amino acid ***sequence*** of 408 amino acid fully defined in the specification and was named XEA. (65 pages)

L9 ANSWER 12 OF 24 USPATFULL on STN
ACCESSION NUMBER: 2001:59429 USPATFULL
TITLE: Enzyme pre-granules for granular fodder
INVENTOR(S): Meschonat, Beate, Hoechst Marion Roussel Deutschland GmbH Patent- und Lizenzabteilung, Geb. K 801, D-65926 Frankfurt am Main, Germany, Federal Republic of
Herrmann, Hubert A., Hoechst Marion Roussel Deutschland GmbH Patent- und Lizenzabteilung, Geb. K 801, D-65926 Frankfurt am Main, Germany, Federal Republic of
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Sommer, Mario, Hoechst Marion Roussel Deutschland GmbH Patent- und Lizenzabteilung, Geb. K 801, D-65926 Frankfurt am Main, Germany, Federal Republic of

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6221406	B1	20010424
	WO 9742837		19971120
APPLICATION INFO.:	US 1999-180617		19990225 (9)
	WO 1997-EP2306		19970506
			19990225 PCT 371 date
			19990225 PCT 102(e) date

	NUMBER	DATE
PRIORITY INFORMATION:	DE 1996-19619219	19960513

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Weber, Jon P.
LEGAL REPRESENTATIVE: Blackstone, William M.
NUMBER OF CLAIMS: 25
EXEMPLARY CLAIM: 1
LINE COUNT: 826
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to the preparation of enzyme pregranules with stable activity which can be incorporated into particles of a granular animal feed. The invention further relates to the pregranules with stable activity which are obtained by the preparative processes and can be incorporated into granular animal feeds.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L9 ANSWER 13 OF 24 BIOTECHNO COPYRIGHT 2005 Elsevier Science B.V. on STN
DUPLICATE
ACCESSION NUMBER: 2000:30099094 BIOTECHNO
TITLE: pgaA and pgaB encode two constitutively expressed endopolygalacturonases of Aspergillus niger
AUTHOR: Parenicova L.; Benen J.A.E.; Kester H.C.M.; Visser J.
CORPORATE SOURCE: J. Visser.
E-mail: office@algemeen.mgim.wau.nl
SOURCE: Biochemical Journal, (01 FEB 2000), 345/3 (637-644), 40 reference(s)
CODEN: BIJOAK ISSN: 0264-6021
DOCUMENT TYPE: Journal; Article
COUNTRY: United Kingdom
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 2000:30099094 BIOTECHNO
AB pgaA and pgaB, two ***genes*** encoding ***endopolygalacturonases*** (PGs, EC 3.2.1.15) A and B, were isolated from a phage genomic library of ***Aspergillus*** niger N400. The 1167 bp protein coding region of the pgaA ***gene*** is interrupted by one intron, whereas the 1234 bp coding region of the pgaB ***gene*** contains two introns. The corresponding proteins, PGA and PGB, consist of 370 and 362 amino acid residues respectively. Northern-blot analysis revealed that pgaA- and pgaB-specific mRNA accumulate in mycelia grown on sucrose. mRNAs are also present upon transfer to media containing D-galacturonic acid and pectin. ***Recombinant*** PGA and PGB were characterized with respect to pH optimum, activity on ***polygalacturonic*** acid, and mode of action and kinetics on oligogalacturonates of different chain length (n = 3-7). At their pH optimum the specific activities in a standard assay for PGA (pH 4.2) and PGB (pH 5.0) were 16.5 .mu.kat.midldot.mg-l and 8.3 .mu.kat.midldot.mg.sup.-.sup.1 respectively. Product progression analysis, using ***polygalacturonate*** as a substrate, revealed a random ***cleavage*** pattern for both enzymes and indicated processive behaviour for PGA. This result was confirmed by analysis of the mode of action using oligogalacturonates. Processivity was observed when the degree of polymerization of the substrate exceeded 6. Using pectins of various degrees of methyl esterification, it was shown that PGA and PGB both preferred partially methylated substrates.

L9 ANSWER 14 OF 24 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
ACCESSION NUMBER: 2001-05175 BIOTECHDS

TITLE: Enzymes in food and feed: past, present and future; enzyme use in the food and feedstuff industry, especially for plant cell wall breakdown or modification; a review
AUTHOR: Groot G S P; Herweijer M A; Simonetti A L M; Selten G C M; Misset O
CORPORATE SOURCE: DSM-Food-Specialties
LOCATION: DSM Food Specialties R&D, P.O. Box 1, 2600 MA Delft, The Netherlands.
SOURCE: Prog.Biotechnol.; (2000) 17, 95-99
CODEN: PBITE3
ISSN: 0921-0423
DOCUMENT TYPE: Journal
LANGUAGE: English
AN 2001-05175 BIOTECHDS
AB Enzymes and microorganisms are used to produce food ingredients such as flavors, fermented and/or ***hydrolyzed*** proteins, and texture ingredients, such as modified pectin and modified starch. An important area of research relates to cell wall degrading enzymes, since plant cell walls are part of many raw materials used in food and feedstuff production. Enzymatic breakdown or modification of cell walls is required for improved processes or products. The 'smooth' region of pectin can be ***hydrolyzed*** using ***polygalacturonase*** (EC-3.2.1.15), pectin-lyase (EC-4.2.2.10) and pectate-lyase (EC-4.2.2.2). The 'hairy' region can be broken down using e.g. exogalacturonase, arabinofuranosidase (EC-3.2.1.55), ***endogalactanase*** and beta-galactosidase (EC-3.2.1.23). The enzymes can be produced in sufficient quantities for application using ***recombinant*** DNA technology. An ***Aspergillus*** strain has been engineered for production of glucoamylase (EC-3.2.1.3) by insertion of a DNA cassette under the control of the glaA promoter, with selection on acetamide and counterselection on fluoro-acetamide. (4 ref)

L9 ANSWER 15 OF 24 PASCAL COPYRIGHT 2005 INIST-CNRS. ALL RIGHTS RESERVED. on STN DUPLICATE 2
ACCESSION NUMBER: 2000-0127435 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 2000 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Endo-xylogalacturonan hydrolase, a novel pectinolytic enzyme
AUTHOR: VAN DER VLUGT-BERGMANS C. J. B.; MEEUWSEN P. J. A.; VORAGEN A. G. J.; VAN OOYEN A. J. J.
CORPORATE SOURCE: Industrial Microbiology Group, Wageningen Agricultural University, 6700 EV Wageningen, Netherlands; Food Chemistry Group, Department of Food Technology and Nutritional Sciences, Wageningen Agricultural University, 6700 EV Wageningen, Netherlands
SOURCE: Applied and environmental microbiology : (Print), (2000), 66(1), 36-41, 36 refs.
ISSN: 0099-2240 CODEN: AEMIDF
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States
LANGUAGE: English
AVAILABILITY: INIST-7195, 354000081878590060
AN 2000-0127435 PASCAL
CP Copyright .COPYRGT. 2000 INIST-CNRS. All rights reserved.
AB We screened an ***Aspergillus*** tubingensis expression library constructed in the yeast Kluyveromyces lactis for xylogalacturonan- ***hydrolyzing*** activity in microwell plates by using a bicinchoninic acid assay. This assay detects reducing carbohydrate groups when they are released from a carbohydrate by enzymatic activity. Two K. lactis ***recombinants*** exhibiting xylogalacturonan- ***hydrolyzing*** activity were found among the 3,400 colonies tested. The cDNA insert of these ***recombinants*** encoded a 406-amino-acid protein, designated XghA, which was encoded by a single-copy ***gene*** , xghA. A multiple- ***sequence*** alignment revealed that XghA was similar to both ***polygalacturonases*** (PGs) and rhamnogalacturonases. A detailed examination of conserved regions in the ***sequences*** of these enzymes revealed that XghA resembled PGs more. High-performance liquid chromatography and matrix-assisted laser desorption

ionization-time of flight mass spectrometry of the products of degradation of xylogalacturonan and saponified modified hairy regions of apple pectin by XghA demonstrated that this enzyme uses an ***endo*** type of mechanism. XghA activity appeared to be specific for a xylose-substituted galacturonic acid backbone.

L9 ANSWER 16 OF 24 LIFESCI COPYRIGHT 2005 CSA on STN DUPLICATE 3
ACCESSION NUMBER: 2000:26844 LIFESCI
TITLE: Kinetic characterization of Aspergillus niger N400 endopolygalacturonases I, II and C
AUTHOR: Benen, J.A.E.*; Kester, H.C.M.; Visser, J.
CORPORATE SOURCE: Section Molecular Genetics of Industrial Microorganisms, Wageningen Agricultural University, the Netherlands
SOURCE: European Journal of Biochemistry [Eur. J. Biochem.], (19990200) vol. 259, no. 3, pp. 577-585.
ISSN: 0014-2956.
DOCUMENT TYPE: Journal
FILE SEGMENT: K
LANGUAGE: English
SUMMARY LANGUAGE: English
AB ***Endopolygalacturonases*** I, II and C isolated from ***recombinant*** ***Aspergillus*** niger strains were characterized with respect to pH optimum, activity on ***polygalacturonic*** acid and mode of action and kinetics on oligogalacturonates of different chain length (n=3-7). Apparent V sub(max) values using ***polygalacturonate*** as a substrate at the pH optimum, pH4.1, were calculated as 13.8 mu kat times mg super(-1), 36.5 mu kat times mg super(-1) and 415nkat times mg super(-1) for ***endopolygalacturonases*** I, II and C, respectively. K sub(m) values were <0.15mg times mL super(-1) for all three enzymes. Product progression analysis using ***polygalacturonate*** as a substrate revealed a random ***cleavage*** pattern for all three enzymes and suggested processive behavior for ***endopolygalacturonases*** I and C. This result was confirmed by analysis of the mode of action using oligogalacturonates. Processivity was observed when the degree of polymerization of the substrate exceeded 5 or 6 for ***endopolygalacturonase*** I and ***endopolygalacturonase*** C, respectively. The bond- ***cleavage*** frequencies obtained for the ***hydrolysis*** of the oligogalacturonates were used to assess subsite maps. The maps indicate that the minimum number of subsites is seven for all three enzymes. Using pectins of various degrees of esterification, it was shown that ***endopolygalacturonase*** II is the most sensitive to the presence of methyl esters. Like ***endopolygalacturonase*** II, ***endopolygalacturonases*** I, C and E, which was also included in this part of the study, preferred the non-esterified pectate. Additional differences in substrate specificity were revealed by analysis of the reaction products of ***hydrolysis*** of a mixture of pectate lyase-generated Delta 4,5-unsaturated oligogalacturonates of degree of polymerization 4-8. Whereas ***endopolygalacturonase*** I showed a strong preference for generating the Delta 4,5-unsaturated dimer, with ***endopolygalacturonase*** II the Delta 4,5-unsaturated trimer accumulated, indicating further differences in substrate specificity. For ***endopolygalacturonases*** C and E both the Delta 4,5-unsaturated dimer and trimer were observed, although in different ratios.

L9 ANSWER 17 OF 24 CABA COPYRIGHT 2005 CABI on STN DUPLICATE 4
ACCESSION NUMBER: 1999:16578 CABA
DOCUMENT NUMBER: 19991000157
TITLE: Crystal structure of polygalacturonase from Erwinia carotovora subsp. carotovora
AUTHOR: Pickersgill, R.; Smith, D.; Worboys, K.; Jenkins, J.
CORPORATE SOURCE: Institute of Food Research, Reading Laboratory, Earley Gate, Whiteknights Road, Reading RG6 6BZ, UK.
SOURCE: Journal of Biological Chemistry, (1998) Vol. 273, No. 38, pp. 24660-24664. 43 ref.
ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: English
ENTRY DATE: Entered STN: 19990211
Last Updated on STN: 19990211
AB The crystal structure of the 40-kDa ***endo*** -

polygalacturonase from E. carotovora subsp. carotovora was solved by multiple isomorphous replacement and refined at 1.9 A to a conventional crystallographic R-factor of 0.198 and Rfree of 0.239. This is the first structure of a ***polygalacturonase*** and comprises a 10 turn right-handed parallel [beta]-helix domain with two loop regions forming a "tunnel like" substrate-binding cleft. ***Sequence*** conservation indicated that the active site of ***polygalacturonase*** is between these 2 loop regions, and comparison of the structure of ***polygalacturonase*** with that of rhamnogalacturonase A from ***Aspergillus*** aculeatus enables 2 conserved aspartates, presumed to be catalytic residues, to be identified. An adjacent histidine, in accord with biochemical results, is also seen. A similarity in overall electrostatic properties of the substrate-binding clefts of ***polygalacturonase*** and pectate lyase, which bind and ***cleave*** the same substrate, ***polygalacturonic*** acid, is also revealed.

L9 ANSWER 18 OF 24 LIFESCI COPYRIGHT 2005 CSA on STN DUPLICATE 5
ACCESSION NUMBER: 2000:15503 LIFESCI
TITLE: pgaE encodes a fourth member of the endopolygalacturonase gene family from Aspergillus niger
AUTHOR: Parenicova, L.; Benen, J.A.E.; Kester, H.C.M.; Visser, J.*
CORPORATE SOURCE: Section Molecular Genetics of Industrial Microorganisms, Wageningen Agricultural University, Dreyenlaan 2, NL-6703 HA Wageningen, The Netherlands; E-mail: office@algemeen.mgim.wau.nl
SOURCE: European Journal of Biochemistry [Eur. J. Biochem.], (19980100) vol. 251, no. 1-2, pp. 72-80. ISSN: 0014-2956.
DOCUMENT TYPE: Journal
FILE SEGMENT: G; K
LANGUAGE: English
SUMMARY LANGUAGE: English
AB In the present study, the molecular and basic biochemical characterization of ***endopolygalacturonase*** E, the fourth ***Aspergillus*** niger N400 ***endopolygalacturonase*** , is reported. The entire ***endopolygalacturonase*** E ***gene*** consists of 1293 bp interrupted by three short introns (50, 50, and 59 bp, respectively) as concluded from the cDNA ***sequence*** . The deduced amino acid ***sequence*** comprises 378 residues that include 39 N-terminal amino acids of the prepropeptide. The calculated M sub(r) and pI of the mature protein are 35 584 and 3.6, respectively. Compared with other ***endopolygalacturonases*** from A. niger N400, the mature protein ***endopolygalacturonase*** E has the highest ***sequence*** identity with ***endopolygalacturonase*** C (77.6%) followed by ***endopolygalacturonase*** I (57.6%) and ***endopolygalacturonase*** II (54.3%). For overproduction of ***endopolygalacturonase*** E, an A. niger multicopy strain was used that was transformed with a promoter ***gene*** fusion construct that directs expression from the glycolytic A. niger pyruvate kinase promoter. The enzyme was purified and characterized as an ***endopolygalacturonase*** based on product analysis after ***polygalacturonate*** ***hydrolysis*** and on bond ***cleavage*** frequencies of oligogalacturonates of different degree of polymerisation (n = 2-7). The pH optimum was 3.8. The K sub(m) and V sub(max) for ***polygalacturonate*** ***hydrolysis*** were 2.5 plus or minus 0.4 mg * ml super(-1) and 1.3 plus or minus 0.2 mu kat * mg super(-1), respectively. A subsite map was calculated by the combination of the methods of Suganuma et al. and Nitta et al.. This indicated that the enzyme was composed of at least five subsites.

L9 ANSWER 19 OF 24 PASCAL COPYRIGHT 2005 INIST-CNRS. ALL RIGHTS RESERVED. on STN DUPLICATE 6
ACCESSION NUMBER: 1997-0334710 . PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 1997 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Cloning of a protopectinase gene of Trichosporon penicillatum and its expression in Saccharomyces cerevisiae
AUTHOR: IGUCHI K.-I.; HIRANO H.; KISHIDA M.; KAWASAKI H.; SAKAI T.
CORPORATE SOURCE: Department of Applied Biochemistry, College of

Agriculture, Osaka Prefecture University, Gakuen-cho 1-1, Sakai, Osaka 593, Japan; Department of Food Science, Faculty of Agriculture, Kinki University, 3327-204, Nakamachi, Nara 631, Japan

SOURCE: Microbiology : (Reading), (1997), 143(p.5), 1657-1664, 21 refs.
ISSN: 1350-0872

DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United Kingdom
LANGUAGE: English
AVAILABILITY: INIST-4410, 354000065734310220
AN 1997-0334710 PASCAL

AB A protopectinase (PPase)-encoding ***gene*** , PSE3, from Trichosporon penicillatum was ***cloned*** by colony hybridization using two oligonucleotide probes synthesized from the N-terminal amino acid ***sequences*** of native PPase SE1 and one peptide from a lysyl ***endopeptidase*** ***digest*** . Nucleotide sequencing revealed that PSE3 contains an ORF encoding a 367 amino acid protein. Mature PPase SE3 is composed of 340 amino acids and the N-terminus of the ORF appeared to correspond to a signal peptide and a propeptide processed by a KEX2-like proteinase. The deduced amino acid ***sequence*** of PSE3 was 65.4, 56.7, 58.1, 61.8 and 48.9% homologous to the ***polygalacturonases*** of ***Aspergillus*** oryzae, ***Aspergillus*** niger, ***Aspergillus*** tubigensis, Cochliobolus carbonum and Fusarium moniliforme, respectively. One domain, which might interact with ***polygalacturonic*** acid, is highly conserved not only in fungal ***polygalacturonases*** but also in bacterial and plant ***polygalacturonases*** . PSE3 was expressed in Saccharomyces cerevisiae, but three forms (the mature form, a glycosylated form and an uncharacterized processed form) of PPase SE3 were present among the PSE3 products.

L9 ANSWER 20 OF 24 CABA COPYRIGHT 2005 CABI on STN DUPLICATE 7
ACCESSION NUMBER: 97:13645 CABA
DOCUMENT NUMBER: 19971000310
TITLE: Structure and expression of two polygalacturonase genes of Claviceps purpurea oriented in tandem and cytological evidence for pectinolytic enzyme activity during infection of rye
AUTHOR: Tenberge, K. B.; Homann, V.; Oeser, B.; Tudzynski, P.
CORPORATE SOURCE: Westfalische Wilhelms-Universitat, Institut fur Botanik, Schlossgarten 3, D-48149 Munster, Germany.
SOURCE: Phytopathology, (1996) Vol. 86, No. 10, pp. 1084-1097. 54 ref.
ISSN: 0031-949X

DOCUMENT TYPE: Journal
LANGUAGE: English
ENTRY DATE: Entered STN: 19970310
Last Updated on STN: 19970310
AB Two putative ***polygalacturonase*** (PG) ***genes*** were isolated from strain T5 of C. purpurea, using the pgall ***gene*** of ***Aspergillus*** niger as a probe. The 2 ***genes*** (pg1 and pg2) were closely linked and arranged head-to-tail. They were highly homologous even in the upstream noncoding ***sequences*** , with 1 intron each in the same position, and with ***cleavage*** sites for processing enzymes. It is suggested that they probably code for mature proteins of 343 and 344 amino acids, respectively, and share significant homology with ***endo*** -PGs of other filamentous fungi. Expression of pg1 and pg2 in axenic culture and during various stages of infection of rye was demonstrated using reverse transcription-PCR. The potential substrate of the putative products of pg1 and pg2 (***polygalacturonic*** acid) was a component of the host cell walls in rye ovaries. This was shown by immunogold TEM with the monoclonal antibody (MAb) JIM 5, specific for nonmethyl-esterified epitopes of pectin. This homogalacturonan was localized along the usual infection path in healthy carpels together with its methyl-esterified galacturonan type in the same cell walls with another MAb, JIM 7. At the interface of the penetrating hyphae and the

host ovary epidermis, JIM 5 label density was locally enhanced and very high above hyphal sheaths. In the vicinity of intercellularly growing hyphae, label density was highly increased, and gold label occurred not only above the middle lamella area but also throughout the entire host cell wall. Chemical demethylation and immunogold labeling indicated a high total content of galacturonan and a conversion of pectic compounds at the host-parasite interface. During late infection phases, the lack of any JIM label, which previously occurred at the interface of intracellular hyphae, emphasized the complete utilization of homogalacturonan together with other plant polysaccharides. It is suggested that the observed host wall alterations provide evidence for secretion and activity of extracellular pectinolytic enzymes in planta. The expression of the 2 ***genes*** during infection of rye and the modification and degradation of homogalacturonan detected only at fungal sites suggested the fungal origin of pectinolytic enzymes, the activities of which have been documented previously in infected ovaries.

L9 ANSWER 21 OF 24 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2005) on STN DUPLICATE 8
ACCESSION NUMBER: 97:39777 AGRICOLA
DOCUMENT NUMBER: IND20569234
TITLE: Primary structure and characterization of an exopolygalacturonase from Aspergillus tubingensis.
AUTHOR(S): Kester, H.C.M.; Kusters-van Someren, M.A.; Muller, Y.; Visser, J.
CORPORATE SOURCE: Wageningen Agricultural University, The Netherlands.
AVAILABILITY: DNAL (QP501.E8)
SOURCE: European journal of biochemistry, Sept 1996. Vol. 240, No. 3. p. 738-746
Publisher: Berlin : Springer-Verlag Berlin.
CODEN: EJBCAI; ISSN: 0014-2956
NOTE: Includes references
PUB. COUNTRY: Germany
DOCUMENT TYPE: Article
FILE SEGMENT: Non-U.S. Imprint other than FAO
LANGUAGE: English
AB From the culture fluid of the hyphal fungus ***Aspergillus*** tubingensis, an exopolygalacturonase with a molecular mass of 78 kDa, an isoelectric point in the pH-range 3.7-4.4 and a pH optimum of 4.2 was purified. The enzyme has been characterized as an exopolygalacturonase [poly(1,4-alpha-D-galacturonide) galacturonohydrolase] that ***cleaves*** monomer units from the non-reducing end of the substrate molecule. Km and Vmax for ***polygalacturonic*** acid ***hydrolysis*** were 3.2 mg ml-1 and 3.1 mg ml-1 and 255 U mg-1 and 262 U mg-1 for the wild-type and ***recombinant*** enzymes, respectively. The kinetic data of exopolygalacturonase on oligogalacturonates of different degree of polymerization (2-7) were interpreted in terms of a subsite model to obtain more insight into catalysis and substrate binding. On oligogalacturonates of different degrees of polymerization (2-7), the Michaelis constant (Km) decreased with increasing chain length (n). The Vmax value increased with chain length up to n = 4, then reached a plateau value. The enzyme was competitively inhibited by galacturonic acid (Ki = 0.3 mM) as well as by reduced digalacturonate (Ki = 0.4 mM). The exopolygalacturonase ***gene*** (pgaX) was ***cloned*** by reverse genetics and shows only 13% overall amino acid ***sequence*** identity with A. niger ***endopolygalacturonases*** . The exopolygalacturonase is most related to plant ***polygalacturonases*** . Only four small stretches of amino acids are conserved between all known ***endogalacturonases*** and exopolygalacturonases. Expression of the pgaX ***gene*** is inducible with galacturonic acid and is subject to catabolite repression. A fusion between the promoter of the A. niger glycolytic ***gene*** encoding pyruvate kinase and the pgaX-coding region was used to achieve high level production of exopolygalacturonase under conditions where no ***endopolygalacturonases*** were produced.

L9 ANSWER 22 OF 24 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
ACCESSION NUMBER: 1995-04259 BIOTECHDS
TITLE: New acid proteases from Aspergillus aculeatus;

gene cloning and expression in Aspergillus niger or Aspergillus oryzae, for use as a lytic enzyme in contact lens cleaning, baking and feedstuff preparation

AUTHOR: Dalboge H; Christgau S; Andersen L N; Kofod L V; Kauppinen M S; Nielsen J B; Dambmann C

PATENT ASSIGNEE: Novo-Nordisk

PATENT INFO: WO 9502044 19 Jan 1995

APPLICATION INFO: WO 1994-DK274 5 Jul 1994

PRIORITY INFO: DK 1993-811 6 Jul 1993

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: WPI: 1995-066892 [09]

AN 1995-04259 BIOTECHDS

AB A new DNA ***sequence*** encodes an acid protease from a filamentous fungus or yeast, e.g. ***Aspergillus*** , Rhizopus, Trichoderma, Penicillium, Fusarium, Scytalidium or Humicola, preferably ***Aspergillus*** aculeatus CBS 101.43, ***Aspergillus*** niger or ***Aspergillus*** oryzae. The DNA may be inserted in a vector for expression in a filamentous fungus or yeast, e.g. A. niger or A. oryzae. The enzyme is active at a pH below 7 and in the presence of up to 5% hydrogen peroxide. The enzyme ***hydrolyzes*** Phe-Val and Lys-Tyr linkages in cattle glucagon, and reacts with an antibody against purified A. aculeatus protease. A new plant cell wall lytic enzyme preparation is enriched in the new acid protease, and may also contain pectin-lyase (EC-4.2.2.10), pectate-lyase (EC-4.2.2.2), cellulase (EC-3.2.1.4), arabinanase, ***endo*** -1,4-beta-D-xylanase (EC-3.2.1.8), glucanase, galactanase, mannanase, alpha-galactosidase (EC-3.2.1.22), rhamnogalacturonase, pectin-acetyl-esterase, ***polygalacturonase*** (EC-3.2.1.15), protease, exo-peptidase or pectinesterase (EC-3.1.1.11). The enzyme may be used for cleaning of contact lenses, baking or feedstuff preparation. (67pp)

L9 ANSWER 23 OF 24 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN

ACCESSION NUMBER: 1995-04258 BIOTECHDS

TITLE: Enzyme from Trichoderma harzianum having endoglucanase activity;
cellulase gene cloning and expression in Aspergillus niger or Aspergillus oryzae for use as a plant cell wall lytic enzyme in brewing or food or feedstuff production

AUTHOR: Dalboge H; Christgau S; Andersen L N; Kofod L V; Kauppinen M S

PATENT ASSIGNEE: Novo-Nordisk

PATENT INFO: WO 9502043 19 Jan 1995

APPLICATION INFO: WO 1994-DK275 5 Jul 1994

PRIORITY INFO: DK 1993-812 6 Jul 1993

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: WPI: 1995-066891 [09]

AN 1995-04258 BIOTECHDS

AB A new DNA ***sequence*** encodes a cellulase (EC-3.2.1.4), or has at least 70% homology with a specified ***sequence*** . The cellulase is from a filamentous fungus or yeast, e.g. ***Aspergillus*** , Trichoderma, Penicillium, Fusarium or Humicola, preferably Trichoderma harzianum CBS 243.71. The DNA may be inserted in a vector for expression in a filamentous fungus or yeast, e.g. ***Aspergillus*** niger or ***Aspergillus*** oryzae. The ***recombinant*** enzyme produced using the vector is immunologically reactive with an antibody raised against purified T. harzianum cellulase. A plant cell wall lytic enzyme preparation enriched in the new cellulase is also new, and may additionally contain a galactanase, ***endo*** -1,4-beta-D-xylanase (EC-3.2.1.8), arabinanase, pectin-acetyl-esterase, ***polygalacturonase*** (EC-3.2.1.15), rhamnogalacturonase, pectin-lyase (EC-4.2.2.10), pectate-lyase (EC-4.2.2.2), cellulase or pectinesterase (EC-3.1.1.11). The enzyme preparation may be used in brewing or in food or feedstuff preparation, to improve feed uptake and/or ***digestibility*** . The enzyme is produced in improved yield and higher purity by this method. (28pp)

L9 ANSWER 24 OF 24 PASCAL on STN

ACCESSION NUMBER: 1995-0514278 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 1995 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Substrate binding ability of chemically inactivated pectinase for the substrate pectic acid
AUTHOR: CHIBA Y.; KOBAYASHI M.
CORPORATE SOURCE: National food res. inst., Tsukuba, Ibaraki 305, Japan
SOURCE: Bioscience, biotechnology, and biochemistry, (1995), 59(7), 1242-1245, 11 refs.
ISSN: 0916-8451
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: Japan
LANGUAGE: English
AVAILABILITY: INIST-8935, 354000054609290130
AN 1995-0514278 PASCAL
CP Copyright .COPYRGT. 1995 INIST-CNRS. All rights reserved.
AB Pectinase (***polygalacturonase***) was purified from a commercial pectinase preparation from a mold. Substrate binding of pectinase was measured by centrifugal affinity chromatography using an immobilized substrate, pectic acid. Desorption of pectinase from the affinity matrix with the substrate pectin and pectic acid gave K.sub.d values of 5.3 and 8.5 mg/ml, respectively. Chemical modification of pectinase by 1-ethyl-3-(3-dimethyl-aminopropyl)carbodiimide (EDC) and diethyl pyrocarbonate (DEP) caused a loss of most of the enzyme activity, but the substrate binding ability was not impaired. Thus, the pectinase preparation was ***digested*** with lysyl ***endopeptidase*** and the resulting peptides were treated with pectic acid-affinity gel. Three peptide fragments, which were recovered from the affinity column and ***sequenced*** , were identical to ***sequences*** in the second pectinase ***gene*** from ***Aspergillus*** niger. The first peptide contained 17 amino acids, Asp101-Ser117, and the second and third peptides corresponded to 18 amino acids of Asn152-Asp169. These results indicate that the inactivated pectinase retained substrate binding ability and would function as an acidic polysaccharide recognizing protein.

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(FILE 'HOME' ENTERED AT 14:04:16 ON 28 OCT 2005)

INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, ANTE, AQUALINE, AQUASCI, BIOBUSINESS, BIOCOMMERCE, BIOENG, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE, DISSABS, ...' ENTERED AT 14:04:36 ON 28 OCT 2005
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FILE 'CAPLUS, BIOSIS, CABA, SCISEARCH, USPATFULL, PASCAL, AGRICOLA, LIFESCI, BIOTECHDS, EMBASE, MEDLINE, BIOTECHNO, ESBIOBASE, BIOENG' ENTERED AT 14:10:04 ON 28 OCT 2005
L2 24224 S L1
L3 5984 S (GENE# OR CLONE# OR SEQUENCE# OR POLYNUCLEOTIDE# OR RECOMBINA
L4 489 S (HYDROLY? OR CLEAV? OR DIGEST?) (S) L3
L5 417 S POLYGALACTURON? (S) L4
L6 231 S ENDO? (S) L5
L7 17 S XYLOSE? (S)L6
L8 50 S ASPERGILLUS (S) L6
L9 24 DUP REM L8 (26 DUPLICATES REMOVED)
L10 11 DUP REM L7 (6 DUPLICATES REMOVED)

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L10 ANSWER 1 OF 11 USPATFULL on STN
ACCESSION NUMBER: 2005:139784 USPATFULL
TITLE: Inbred corn line PHADA
INVENTOR(S): Benson, David Lee, York, NE, UNITED STATES
PATENT ASSIGNEE(S): Pioneer Hi-Bred International, Inc. (U.S. corporation)

NUMBER KIND DATE

PATENT INFORMATION: US 2005120439 A1 20050602
APPLICATION INFO.: US 2005-48442 A1 20050131 (11)
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: PIONEER HI-BRED INTERNATIONAL INC., 7100 N.W. 62ND AVENUE, P.O. BOX 1000, JOHNSTON, IA, 50131, US
NUMBER OF CLAIMS: 41
EXEMPLARY CLAIM: 1
LINE COUNT: 3112
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A novel inbred maize line designated PHADA and seed, plants and plant parts thereof. Methods for producing a maize plant that comprise crossing inbred maize line PHADA with another maize plant. Methods for producing a maize plant containing in its genetic material one or more traits introgressed into PHADA through backcross conversion and/or transformation, and to the maize seed, plant and plant part produced thereby. Hybrid maize seed, plant or plant part produced by crossing the inbred line PHADA or a trait conversion of PHADA with another maize line. Inbred maize lines derived from inbred maize line PHADA, methods for producing other inbred maize lines derived from inbred maize line PHADA and the inbred maize lines and their parts derived by the use of those methods.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 2 OF 11 USPATFULL on STN
ACCESSION NUMBER: 2005:139783 USPATFULL
TITLE: Hybrid maize 37F73
INVENTOR(S): Kevern, Thomas Craig, Milton, WI, UNITED STATES
PATENT ASSIGNEE(S): Pioneer Hi-Bred International, Inc., Johnston, IA, UNITED STATES (U.S. corporation)

NUMBER KIND DATE

PATENT INFORMATION: US 2005120438 A1 20050602
APPLICATION INFO.: US 2005-48371 A1 20050131 (11)
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: MCKEE, VOORHEES & SEASE, P.L.C., ATTN: PIONEER HI-BRED, 801 GRAND AVENUE, SUITE 3200, DES MOINES, IA, 50309-2721, US
NUMBER OF CLAIMS: 27
EXEMPLARY CLAIM: 1
LINE COUNT: 2753
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A novel hybrid maize variety designated 37F73 and seed, plants and plant parts thereof, produced by crossing two Pioneer Hi-Bred International, Inc. proprietary inbred maize lines. Methods for producing a maize plant that comprises crossing hybrid maize variety 37F73 with another maize plant. Methods for producing a maize plant containing in its genetic material one or more traits introgressed into 37F73 through backcross conversion and/or transformation, and to the maize seed, plant and plant part produced thereby. This invention relates to the hybrid seed 37F73, the hybrid plant produced from the seed, and variants, mutants, and trivial modifications of hybrid 37F73. This invention further relates to methods for producing maize lines derived from hybrid maize variety 37F73 and to the maize lines derived by the use of those methods.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 3 OF 11 USPATFULL on STN
ACCESSION NUMBER: 2005:139780 USPATFULL
TITLE: Soybean variety XB25C05
INVENTOR(S): Streit, Leon George, Johnston, IA, UNITED STATES
Stephens, Paul Alan, Princeton, IL, UNITED STATES
PATENT ASSIGNEE(S): Pioneer Hi-Bred International, Inc. (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005120435	A1	20050602
APPLICATION INFO.:	US 2005-48688	A1	20050131 (11)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: PIONEER HI-BRED INTERNATIONAL INC., 7100 N.W. 62ND AVENUE, P.O. BOX 1000, JOHNSTON, IA, 50131, US
NUMBER OF CLAIMS: 12
EXEMPLARY CLAIM: 1
LINE COUNT: 1693
AB According to the invention, there is provided a novel soybean variety designated XB25C05. This invention thus relates to the seeds of soybean variety XB25C05, to the plants of soybean XB25C05 to plant parts of soybean variety XB25C05 and to methods for producing a soybean plant produced by crossing plants of the soybean variety XB25C05 with another soybean plant, using XB25C05 as either the male or the female parent.

L10 ANSWER 4 OF 11 USPATFULL on STN
ACCESSION NUMBER: 2005:139772 USPATFULL
TITLE: Soybean variety XB43D05
INVENTOR(S): Thompson, Jeffrey Allan, Edwardsville, IL, UNITED STATES
Streit, Leon George, Johnston, IA, UNITED STATES
PATENT ASSIGNEE(S): Pioneer Hi-Bred International, Inc. (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005120427	A1	20050602
APPLICATION INFO.:	US 2005-48362	A1	20050131 (11)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: PIONEER HI-BRED INTERNATIONAL INC., 7100 N.W. 62ND AVENUE, P.O. BOX 1000, JOHNSTON, IA, 50131, US
NUMBER OF CLAIMS: 12
EXEMPLARY CLAIM: 1
LINE COUNT: 1691
AB According to the invention, there is provided a novel soybean variety designated XB43D05. This invention thus relates to the seeds of soybean variety XB43D05, to the plants of soybean XB43D05 to plant parts of soybean variety XB43D05 and to methods for producing a soybean plant produced by crossing plants of the soybean variety XB43D05 with another soybean plant, using XB43D05 as either the male or the female parent.

L10 ANSWER 5 OF 11 USPATFULL on STN
ACCESSION NUMBER: 2005:139770 USPATFULL
TITLE: Soybean variety XB39N05
INVENTOR(S): Corbin, Thomas Charles, Monticello, IL, UNITED STATES
Streit, Leon George, Johnston, IA, UNITED STATES
PATENT ASSIGNEE(S): Pioneer Hi-Bred International, Inc. (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005120425	A1	20050602
APPLICATION INFO.:	US 2005-48357	A1	20050131 (11)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: PIONEER HI-BRED INTERNATIONAL INC., 7100 N.W. 62ND AVENUE, P.O. BOX 1000, JOHNSTON, IA, 50131, US
NUMBER OF CLAIMS: 12
EXEMPLARY CLAIM: 1
LINE COUNT: 1693
AB According to the invention, there is provided a novel soybean variety designated XB39N05. This invention thus relates to the seeds of soybean variety XB39N05, to the plants of soybean XB39N05 to plant parts of soybean variety XB39N05 and to methods for producing a soybean plant produced by crossing plants of the soybean variety XB39N05 with another soybean plant, using XB39N05 as either the male or the female parent.

L10 ANSWER 6 OF 11 USPATFULL on STN
ACCESSION NUMBER: 2005:270565 USPATFULL
TITLE: Inbred corn line PHACE
INVENTOR(S): Benson, David Lee, York, NE, UNITED STATES
PATENT ASSIGNEE(S): Pioneer Hi-Bred International, Inc., Des Moines, IA, UNITED STATES (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6958438	B1	20051025
APPLICATION INFO.:	US 2004-769188		20040130 (10)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Kruse, David H
LEGAL REPRESENTATIVE: Pioneer Hi-Bred International, Inc.
NUMBER OF CLAIMS: 30
EXEMPLARY CLAIM: 1
LINE COUNT: 2637
AB A novel inbred maize line designated PHACE and seed, plants and plant parts thereof. Methods for producing a maize plant that comprise crossing inbred maize line PHACE with another maize plant. Methods for producing a maize plant containing in its genetic material one or more traits introgressed into PHACE through backcross conversion and/or transformation, and to the maize seed, plant and plant part produced thereby. Hybrid maize seed, plant or plant part produced by crossing the inbred line PHACE or an introgressed trait conversion of PHACE with another maize line. Inbred maize lines derived from inbred maize line PHACE, methods for producing other inbred maize lines derived from inbred maize line PHACE and the inbred maize lines and their parts derived by the use of those methods.

L10 ANSWER 7 OF 11 USPATFULL on STN
ACCESSION NUMBER: 2005:198732 USPATFULL
TITLE: Inbred corn line PHAVN
INVENTOR(S): Hoffbeck, Loren John, Tipton, IN, UNITED STATES
PATENT ASSIGNEE(S): Pioneer Hi-Bred International Inc., Des Moines, IA, UNITED STATES (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6927327	B1	20050809
APPLICATION INFO.:	US 2004-768428		20040130 (10)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Fox, David T.
ASSISTANT EXAMINER: Ibrahim, Medina A.
LEGAL REPRESENTATIVE: Pioneer Hi-Bred International Inc.
NUMBER OF CLAIMS: 30
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 0 Drawing Figure(s); 0 Drawing Page(s)
LINE COUNT: 2856
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A novel inbred maize line designated PHAVN and seed, plants and plant parts thereof. Methods for producing a maize plant that comprise crossing inbred maize line PHAVN with another maize plant. Methods for producing a maize plant containing in its genetic material one or more traits introgressed into PHAVN through backcross conversion and/or transformation, and to the maize seed, plant and plant part produced thereby. Hybrid maize seed, plant or plant part produced by crossing the inbred line PHAVN or an introgressed trait conversion of PHAVN with another maize line. Inbred maize lines derived from inbred maize line PHAVN, methods for producing other inbred maize lines derived from inbred maize line PHAVN and the inbred maize lines and their parts derived by the use of those methods.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 8 OF 11 USPATFULL on STN
ACCESSION NUMBER: 2005:154047 USPATFULL
TITLE: Inbred corn line PH77N
INVENTOR(S): Weber, Gerhard Peter, Ammerschwihr, FRANCE
PATENT ASSIGNEE(S): Pioneer Hi-Bred International Inc., Des Moines, IA, UNITED STATES (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6909039	B1	20050621
APPLICATION INFO.:	US 2004-768545		20040130 (10)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Fox, David T.
ASSISTANT EXAMINER: Ibrahim, Medina A.
LEGAL REPRESENTATIVE: Pioneer Hi-Bred International Inc.
NUMBER OF CLAIMS: 30
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 0 Drawing Figure(s); 0 Drawing Page(s)
LINE COUNT: 3004
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A novel inbred maize line designated PH77N and seed, plants and plant parts thereof. Methods for producing a maize plant that comprise crossing inbred maize line PH77N with another maize plant. Methods for producing a maize plant containing in its genetic material one or more traits introgressed into PH77N through backcross conversion and/or transformation, and to the maize seed, plant and plant part produced thereby. Hybrid maize seed, plant or plant part produced by crossing the inbred line PH77N or an introgressed trait conversion of PH77N with another maize line. Inbred maize lines derived from inbred maize line PH77N, methods for producing other inbred maize lines derived from inbred maize line PH77N and the inbred maize lines and their parts derived by the use of those methods.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 9 OF 11 PASCAL COPYRIGHT 2005 INIST-CNRS. ALL RIGHTS RESERVED. on STN DUPLICATE 1
ACCESSION NUMBER: 2000-0127435 PASCAL

TITLE (IN ENGLISH): Endo-xylogalacturonan hydrolase, a novel pectinolytic enzyme
AUTHOR: VAN DER VLUGT-BERGMANS C. J. B.; MEEUWSEN P. J. A.; VORAGEN A. G. J.; VAN OOYEN A. J. J.
CORPORATE SOURCE: Industrial Microbiology Group, Wageningen Agricultural University, 6700 EV Wageningen, Netherlands; Food Chemistry Group, Department of Food Technology and Nutritional Sciences, Wageningen Agricultural University, 6700 EV Wageningen, Netherlands
SOURCE: Applied and environmental microbiology : (Print), (2000), 66(1), 36-41, 36 refs.
ISSN: 0099-2240 CODEN: AEMIDF
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States
LANGUAGE: English
AVAILABILITY: INIST-7195, 354000081878590060
AN 2000-0127435 PASCAL

AB We screened an Aspergillus tubingensis expression library constructed in the yeast Kluyveromyces lactis for xylogalacturonan- ***hydrolyzing*** activity in microwell plates by using a bicinchoninic acid assay. This assay detects reducing carbohydrate groups when they are released from a carbohydrate by enzymatic activity. Two K. lactis ***recombinants*** exhibiting xylogalacturonan- ***hydrolyzing*** activity were found among the 3,400 colonies tested. The cDNA insert of these ***recombinants*** encoded a 406-amino-acid protein, designated XghA, which was encoded by a single-copy ***gene*** , xghA. A multiple- ***sequence*** alignment revealed that XghA was similar to both

polygalacturonases (PGs) and rhamnogalacturonases. A detailed examination of conserved regions in the ***sequences*** of these enzymes revealed that XghA resembled PGs more. High-performance liquid chromatography and matrix-assisted laser desorption ionization-time of .. flight mass spectrometry of the products of degradation of xylogalacturonan and saponified modified hairy regions of apple pectin by XghA demonstrated that this enzyme uses an ***endo*** type of mechanism. XghA activity appeared to be specific for a ***xylose*** -substituted galacturonic acid backbone.

L10 ANSWER 10 OF 11 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
ACCESSION NUMBER: 1996-11862 BIOTECHDS
TITLE: Fermentation of orange peel hydrolyzates by ethanologenic Escherichia coli; following hydrolysis using polygalacturonase and cellulase (conference paper)
AUTHOR: Grohmann K; Cameron R G; Buslig B S
CORPORATE SOURCE: USDA; Florida-Dept.Citrus
LOCATION: USDA Citrus and Subtropical Products Laboratory, 600 Avenue S, NW, Winter Haven, FL 33881, USA.
SOURCE: Appl.Biochem.Biotechnol.; (1996) 57-58, 383-88
CODEN: ABIBDL
ISSN: 0273-2289
17th Symposium on Biotechnology for Fuels and Chemicals, Vail, CO, USA, 7-11 May, 1995.
DOCUMENT TYPE: Journal
LANGUAGE: English
AN 1996-11862 BIOTECHDS
AB Orange peel is converted to a mixture of glucose, galacturonic acid, fructose, arabinose, galactose, and ***xylose*** by ***hydrolysis*** with mixed ***polygalacturonase*** (EC-3.2.1.15) and cellulase (EC-3.2.1.4). All these sugars could be fermented to ethanol or ethanol and acetic acid by the ***recombinant*** bacterium Escherichia coli KO11. The fermentation efficiency was improved by the addition of yeast extract, tryptone, mixed amino acids, corn steep liquor, or by proteolytic ***digestion*** of ***endogenous*** proteins. Batch fermentations of supplemented peel ***hydrolyzate*** containing 111 g/l of initial total sugars produced 35-38 g/l of ethanol in 48-72 hr and a 75-85% yield. (15 ref)

L10 ANSWER 11 OF 11 PASCAL COPYRIGHT 2005 INIST-CNRS. ALL RIGHTS RESERVED. on STN
ACCESSION NUMBER: 1992-0460635 PASCAL
TITLE (IN ENGLISH): Production and secretion of the hydrolytic system of Sclerotinia sclerotiorum: biochemical and genetical analysis
TITLE (IN FRENCH): Production et secretion du systeme hydrolytique de Sclerotinia sclerotiorum: analyses biochimiques et genetiques
AUTHOR: RIOU Christine; FEVRE M. (dir.)
SOURCE: (1991-07), refs. 299 vol.
276 p.
Dissertation Information: Universite de Lyon 1. FRA, Th. doct. : Biol. cell., 91LYO10168
DOCUMENT TYPE: Dissertation
BIBLIOGRAPHIC LEVEL: Monographic
COUNTRY: France
LANGUAGE: French
SUMMARY LANGUAGE: French; English
AVAILABILITY: INIST-T 81414, T91LYO10168
AN 1992-0460635 PASCAL
ABFR Les champignons phytopathogenes produisent des complexes enzymatiques capables d' ***hydrolyser*** les polymeres pectiques, hemicellulosiques et cellulosiques, constituants des parois cellulaires vegetales. Afin d'etudier les aspects biochimiques et moleculaires de la photopathogenese, notre travail a porte sur le systeme ***hydrolytique*** secrete par le champignon phytopathogene, Sclerotinia sclerotiorum. La mutagenese induite de protoplastes a permis d'isoler des souches alterees dans la production de glucanases et/ou de .beta.-glucosidases. Des tests de pathogenicite, realises in situ sur des

plantules de tournesol et des feuilles de haricot, ont mis en evidence une bonne correlation entre les activites glucanasiques et le pouvoir pathogene des mutants. La caracterisation de l'equipement enzymatique secrete par S. sclerotiorum et l'utilisation de substrats inducteurs et represseurs ont permis de definir les conditions de secretion de 13 enzymes lytiques (7 exo- et 6 ***endo*** -enzymes). Les enzymes pectinolytiques sont produits de facon constitutive, mais leurs activites augmentent dans les cultures effectuees sur les substrats complexes. La secretion des enzymes cellulolytiques est induite par les polysaccharides et reprimee par les sucres simples (glucose et ***xylose***). Les inducteurs apparaissent aspecifiques, car les substrats pectiques et cellulosiques induisent simultanement les deux types d'activites enzymatiques. L'analyse en chromatographie de filtration a montre l'apparition de nouvelles formes moleculaires de certains enzymes, en fonction du milieu inducteur. Les isoelectrofocalisations preparatives et analytiques ont permis de mettre en evidence la complexite des systemes enzymatiques, l'existence de nombreux isoenzymes pour chaque activite et de reveler l'aspecificite de certaines activites. Trois enzymes ont ete purifies: une .beta.-galactosidase, une exo- ***polygalacturonase*** et une exo-polymethylgalacturonase. Ils ont ete caracterises pour leurs proprietes physicochimiques (PM, p, ionisation, optimum de pH, optimum de temperature, stabilite a la temperature et influence des ions), leurs modes d'action et leurs specificites. Leurs ***sequences*** N-terminales ont ete determinees. Des anticorps polyclonaux diriges contre les trois proteines purifiees ont ete produits et utilises pour etudier la secretion des enzymes par 'Western blotting'. L'extraction et la purification d'ARN poly (A).sup.+ ont ete realisees. La traduction in vitro des ARNm a permis de mettre en evidence l'expression specifique de ***genes*** au cours de l'induction des enzymes. Les anticorps specifiques des enzymes et les sondes d'oligonucleotides correspondant aux ***sequences*** N-terminales des proteines purifiees permettent d'envisager l'isolement des ***genes*** a partir d'une banque genomique construite dans le vecteur EMBL3 et de banques d'ADNc construites dans le vecteur .lambda.ZAP

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L1 SEA XYLOGALACTURONASE# OR (XYLOGALACTURON? (S)HYDROLASE#) OR EN
QUE XYLOGALACTURONASE# OR (XYLOGALACTURON? (S) HYDROLASE#) OR E

FILE 'CAPLUS, BIOSIS, CABA, SCISEARCH, USPATFULL, PASCAL, AGRICOLA, LIFESCI, BIOTECHDS, EMBASE, MEDLINE, BIOTECHNO, ESBIOBASE, BIOENG' ENTERED AT 14:10:04 ON 28 OCT 2005

L2 24224 S L1
L3 5984 S (GENE# OR CLONE# OR SEQUENCE# OR POLYNUCLEOTIDE# OR RECOMBINA
L4 489 S (HYDROLY? OR CLEAV? OR DIGEST?) (S) L3
L5 417 S POLYGALACTURON? (S) L4
L6 231 S ENDO? (S) L5
L7 17 S XYLOSE? (S)L6
L8 50 S ASPERGILLUS (S) L6
L9 24 DUP REM L8 (26 DUPLICATES REMOVED)
L10 11 DUP REM L7 (6 DUPLICATES REMOVED)

WEST Search History

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DATE: Friday, October 28, 2005

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☐	L6	endo$7 same L5	3
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☐	L3	aspergillus same L1	1
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☐	L1	(xgha or xylogalacturonase? or (xylogalacturonan same hydrolase?) or (endo same xylogalacturonase?) or (endo same xylogalacturonan same hydrolase?))	3

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⇨ s xylogalacturonase# or (xylogalacturon? (s)hydrolase#) or endoxylogalacturonase# or
⇨ (endoxylogalacturon?(s)hydrolase#) or polygalacturonase# or (polygalacturon?(s)hydrolase#)
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